

WHAT IS CLAIMED IS:

1. A medical device with anti-microbial properties comprising:
a catheter having a portion that is partially insertable into the body of a patient and accessible from outside the body once the portion is inserted, wherein the portion has an outer wall, at least one active lumen within the outer wall, and a false lumen within the outer wall, and
wherein the false lumen has a distal portion and a proximal portion, the false lumen contains an anti-microbial agent that provides the outer wall with anti-microbial properties, the distal portion of the false lumen is sealed, and the at least one active lumen at least partially surrounds the false lumen.
2. The medical device of claim 1, wherein the false lumen contains an aqueous solution therein.
3. The medical device of claim 1, wherein the anti-microbial agent comprises an iodine-based substance.
4. The medical device of claim 1, wherein the at least one active lumen and the false lumen are concentric.
5. The medical device of claim 1, wherein the portion includes a first active lumen and a second active lumen.
6. The medical device of claim 5, wherein the first active lumen is an inlet lumen and the second active lumen is an outlet lumen, and the catheter is dialysis catheter.
7. The medical device of claim 6, wherein the catheter is a hemodialysis catheter.
8. A medical device with anti-microbial properties comprising:
a portion that is partially insertable into the body of a patient and accessible from outside the body once the portion is inserted, wherein the portion has an outer wall, at least one active lumen within the outer wall, and a false lumen within the outer wall, and wherein the false lumen has a distal portion and a proximal portion, and the distal portion of the false lumen is sealed; and
a substrate having a first end and a second end, wherein the substrate is comprised of an anti-microbial agent, the substrate is capable of being inserted into the false lumen, and the substrate is capable of providing the outer wall with anti-microbial properties.

9. The medical device of claim 8, wherein the substrate is in the shape of a rod.
10. The medical device of claim 8, wherein the substrate is formed from the anti-microbial agent.
11. The medical device of claim 8, wherein the first end of the substrate
5 comprises an amount of anti-microbial agent that is greater than the amount of anti-microbial agent present in the second end of the substrate.
12. The medical device of claim 8, wherein the anti-microbial agent is an iodine-based substance.
13. The medical device of claim 8, wherein the false lumen contains an aqueous
10 solution therein.
14. The medical device of claim 8, wherein the portion has a first active lumen and a second active lumen.
15. The medical device of claim 14, wherein the first active lumen and the second active lumen at least partially surround the false lumen.
- 15 16. The medical device of claim 15, wherein the medical device is a catheter.
17. The medical device of claim 16, wherein the catheter is a hemodialysis catheter.
18. A medical device with anti-microbial properties comprising:
a portion that is partially insertable into the body of a patient and accessible
20 from outside the body once the portion is inserted, wherein the portion has an outer wall, a first active lumen within the outer wall, and a false lumen within the outer wall,
wherein the false lumen has a distal portion and a proximal portion, the false lumen contains an anti-microbial agent that provides the outer wall with anti-microbial properties, the distal portion of the false lumen is sealed, and the first active lumen and the
25 false lumen are separated by an active lumen wall comprised of a non-permeable material.
19. The medical device of claim 18, wherein the false lumen is defined by the outer wall and the outer wall comprises a semi-permeable material.
20. The medical device of claim 18, wherein the first active lumen is defined by the active lumen wall and the false lumen surrounds the first active lumen.
- 30 21. The medical device of claim 20, wherein the false lumen and the first active lumen are concentric.

22. The medical device of claim 18, wherein the anti-microbial agent comprises an iodine-based substance.

23. The medical device of claim 18, wherein the false lumen contains an aqueous solution therein.

5 24. The medical device of claim 18, further comprising a biologically active material disposed in the first active lumen.

25. The medical device of claim 18, wherein the portion further comprises a second active lumen, wherein the second active lumen and the false lumen are separated by the active lumen wall.

10 26. The medical device of claim 25, wherein the false lumen surrounds the first active lumen and the second active lumen.

27. The medical device of claim 25, wherein the first active lumen is an inlet lumen and the second active lumen is an outlet lumen, and the medical device is a catheter for dialysis.

15 28. The medical device of claim 27, wherein the catheter is a hemodialysis catheter.